

# HOUSE BILL REPORT

## HB 2621

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### As Amended by the Senate

**Title:** An act relating to designating resource programs for science, technology, engineering, and mathematics instruction in K-12 schools.

**Brief Description:** Designating resource programs for science, technology, engineering, and mathematics instruction in K-12 schools.

**Sponsors:** Representatives Orwall, Maxwell, Darneille, Morrell and Haigh.

#### **Brief History:**

##### **Committee Activity:**

Education: 1/20/10, 1/26/10 [DP];

Education Appropriations: 2/4/10 [DP].

##### **Floor Activity:**

Passed House: 2/13/10, 94-0.

Senate Amended.

Passed Senate: 3/4/10, 47-0.

#### **Brief Summary of Bill**

- Directs the Superintendent of Public Instruction to designate up to three high schools to serve as "lighthouses" that offer technical assistance and advice to school districts and communities regarding best practices in science, technology, engineering, and mathematics (STEM) instruction.
- Requires the designated districts to have proven experience and be recognized as offering model programs in STEM instruction.

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#### **HOUSE COMMITTEE ON EDUCATION**

**Majority Report:** Do pass. Signed by 13 members: Representatives Quall, Chair; Maxwell, Vice Chair; Priest, Ranking Minority Member; Hope, Assistant Ranking Minority Member; Dammeier, Fagan, Hunt, Johnson, Liias, Orwall, Probst, Santos and Sullivan.

**Staff:** Barbara McLain (786-7383).

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#### **HOUSE COMMITTEE ON EDUCATION APPROPRIATIONS**

*This analysis was prepared by non-partisan legislative staff for the use of legislative members in their deliberations. This analysis is not a part of the legislation nor does it constitute a statement of legislative intent.*

**Majority Report:** Do pass. Signed by 14 members: Representatives Haigh, Chair; Probst, Vice Chair; Priest, Ranking Minority Member; Hope, Assistant Ranking Minority Member; Anderson, Carlyle, Haler, Hunter, Kagi, Maxwell, Nealey, Quall, Rolfes and Wallace.

**Staff:** Ben Rarick (786-7349).

**Background:**

It is regularly reported in the media and in state and national studies that K-12 students in the United States are not adequately prepared in the academic disciplines of science, technology, engineering, and mathematics (STEM). In Washington the Legislature has directed a number of activities in recent years intended to enhance STEM teaching and learning, such as revising the state mathematics and science standards, identifying recommended curricula, providing professional development to support the revised standards, increasing the high school graduation requirement in mathematics, and providing support for STEM learning activities such as FIRST Robotics and LASER.

There are also examples of locally initiated programs to provide enhanced learning opportunities for students in STEM, including at least three high schools geared to a STEM theme:

- Aviation High School (Highline School District);
- Delta High School (partnership of Kennewick, Pasco, Richland School Districts, Columbia Basin College, Washington State University Tri-Cities, and Battelle); and
- Science and Math Institute at Point Defiance (Tacoma School District).

While each of these high schools is different, they share some common attributes, such as:

- offering a small, personalized learning community for students;
- focusing on interdisciplinary instruction in STEM subjects;
- relying on a project-based curriculum with hands-on and applied learning opportunities; and
- creating partnerships with local communities and STEM businesses to connect learning beyond the classroom.

**Summary of Bill:**

If funds are appropriated for this purpose, the Superintendent of Public Instruction (SPI) designates up to three high schools to serve as resources and examples of how to combine the following best practices:

- a small, highly personalized learning community;
- an interdisciplinary curriculum with strong focus on STEM subjects, delivered through a project-based instructional approach; and
- active partnerships with businesses and the local community.

The designated high schools serve as "lighthouses" to provide technical assistance and advice to other schools and communities who are in the initial stages of creating a STEM learning environment. They must have proven experience and be recognized as model programs. The Office of the SPI works with the designated high schools to publicize their models of STEM instruction and encourage other high schools and communities to replicate similar models.

## **EFFECT OF SENATE AMENDMENT(S):**

Language is added to the intent to recognize the Legislature's efforts to provide financial support for science, technology, engineering, and mathematics (STEM) programs in middle schools. The Office of the Superintendent of Public Instruction must select up to three middle schools, as well as high schools, to act as resources and examples of best practices in STEM instruction.

**Appropriation:** None.

**Fiscal Note:** Available.

**Effective Date:** The bill takes effect 90 days after adjournment of the session in which the bill is passed.

### **Staff Summary of Public Testimony (Education):**

(In support) One of the most important things we can do in education is raise the bar on math and science. To do that, we need models of innovation. Aviation High School has been recognized by the U.S. Department of Education as a model school. The approach to instruction at Aviation High School is all about the application of STEM; this is a theme that runs through the entire curriculum. Students are excited and engaged by applying their knowledge and accelerating their learning. Teachers are technical writers, pilots, engineers, and journalists. Having teachers who know what they are teaching and how to apply it is crucial to achieving what we wish to accomplish. When other schools see examples of what they wish to accomplish, it makes it so much easier to incorporate those ideas. Designating a few schools to serve as a lighthouse to others is very cost-efficient and avoids re-inventing the wheel or operating pilot projects. Showcasing best practice models allows others to springboard to new initiatives. There are many examples of innovation; hopefully one day we can showcase examples from the arts, humanities, and other fields. A new joint venture and joint campus between a college and seven area high schools offers another example of innovation and another resource that could be showcased.

(Opposed) None.

### **Staff Summary of Public Testimony (Education Appropriations):**

(In support) Science, Technology, Engineering and Mathematics (STEM) schools are doing amazing work through innovative means. This bill is trying to share best practices in the area of math and science instruction. The hope is that programs like this will take what is being learned and apply it to all schools throughout the state. Additionally, it is easier to replicate programs when they are here in Washington, as opposed to other states. As a parent of children identified as learning disabled, it is clear that participation in multi-age/hands-on programs can create vastly different outcomes for kids. These innovative schools create excitement for children.

(Opposed) None.

**Persons Testifying (Education):** Representative Orwall, prime sponsor; Reba Gilman, Sydney Miller, and Michael Mondragon, Aviation High School; Dennis Milliken, Office of Superintendent of Public Instruction; Lucinda Young, Washington Education Association; and Raymond Yan and John Aultman, Digipen Institute of Technology.

**Persons Testifying (Education Appropriations):** Representative Orwall, prime sponsor; Dennis Milliken, Office of the Superintendent of Public Instruction; and Deanna Dessau.

**Persons Signed In To Testify But Not Testifying (Education):** None.

**Persons Signed In To Testify But Not Testifying (Education Appropriations):** None.